CUBIT Capability Proposal

Technical Area Geometry, Meshing, Infrastructure, GUI, Graphics, etc..	**Technical Lead** Cubit Developer in charge of technical area
Geometry	Byron Hanks

MRD Description
Describe the capability in terms of how a user would see it.

Provide the ability to perform real and virtual geometry operations in any order.

SRS Description
What needs to be done by Cubit developers to implement this capability? Break the tasks into steps if applicable. (Steps should be on the order of 2 man-weeks or more)

1. Implement webcutting of composite geometry. A prototype of this has been done which demonstrates the feasibility. 2. Implement webcutting of partitioned geometry. This may require modifications to the current save/restore of partitions to facilitate webcutting. Re-implementing partitioning to use real geometry operations may also facilitate webcutting partitions in that it would eliminate some of the partitioning failures that would hinder interoperability to work properly. 3. Implement other real operations on composites and partitions.

Justification
Describe why this is important and what impact it will have if it is implemented. (or not implemented).

Currently, virtual operations can only be done after all real operations are performed. This can be a major obstacle when all of the needed geometry modifications are not foreseen. The ability to perform real operations after virtual operations will make CUBIT much more flexible in preparing geometry for meshing. This fact has been repeatedly substantiated by users. This capability would have possible overlap with the Goodyear needs.

Resources Who will work on this	**Time estimate** How much time will it take in man-weeks	**Targeted Release** 10.2 (August 06), 10.3 (March 2007), 10.4 (August 2007), Future (beyond FY07)
?	6 man months	10.2

Submitted By:	**Date:**
Brett Clark	24-March-2006